```
(FILE 'HOME' ENTERED AT 11:15:04 ON 19 AUG 2008)
     FILE 'CAPLUS' ENTERED AT 11:15:17 ON 19 AUG 2008
                E LIPOIC ACID+ALL/CT
                E (LIPOIC ACID OR "A-LIPOIC ACID")
                E UBIQUINONE
                E LIPOIC ACID
                E A-LIPOIC ACID
                SET EXPAND CONTINUOUS PERM
                E UBIQUINONE
                E LIPOIC ACIDS
                E LIPOIC ACID+ALL/CT
                E DIHYDROLIPOIC ACID
                E LIPOICACID OR "A-LIPOICACID" OR DIHYDROLIPOICACID
                E DIHYDROLIPOICACID
                E DIHYDROLIPOICACID OR LIPOICACID OR "ALPHA"-LIPOICACID
L1
          10399 S E15
L2
              4 S E53 OR E66
                E LIPOIC ACID+ALL/CT
L3
           4848 S (LIPOIC ACID OR "A-LIPOIC ACID") OR "1,2-DITHIOLANE-3-P
L4
             31 S L1 (S) L3
=> D 14 ibib hit 1-31
   ANSWER 1 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2008:942496 CAPLUS
TITLE:
                         Ubiquinones for relief or prevention of xerostomia
                        Saito, Ichiro; Fujii, Kenji; Hamada, Kazuya
INVENTOR(S):
PATENT ASSIGNEE(S):
                        Kaneka Corporation, Japan
SOURCE:
                        PCT Int. Appl., 31pp.
                         CODEN: PIXXD2
DOCUMENT TYPE:
                         Patent
LANGUAGE:
                         Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:
                  KIND DATE APPLICATION NO. DATE
    PATENT NO.
                        A1 20080807 WO 2008-JP51550 20080131
     WO 2008093793
         W: AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ,
             CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES,
             FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE,
             KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD,
             ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH,
             PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM,
             TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU,
             IE, IS, IT, LT, LU, LV, MC, MT, NL, NO, PL, PT, RO, SE, SI, SK,
             TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW,
             AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
PRIORITY APPLN. INFO.:
                                            JP 2007-22153 A 20070131
     50-81-7, vitamin C 56-12-2, \gamma-Aminobutyric acid 56-85-9,
     L-Glutamine 70-18-8, Glutathione 303-98-0, Coenzyme Q10 472-61-7,
    Astaxanthin 502-65-8, Lycopene 584-85 Coenzyme Q10 1200-22-2, \alpha -Lipoic acid
                   502-65-8, Lycopene 584-85-0, Anserine 992-78-9, Reduced
     1406-18-4, Vitamin E 3081-61-6, Theanine 7782-49-2, Selenium
     9001-05-2, Catalase 9001-48-3, Glutathione reductase 9013-66-5,
```

Glutathione peroxidase 9054-89-1, Superoxide dismutase 11103-57-4,

Vitamin A 12001-76-2, Vitamin B 50812-37-8, Glutathione s-transferase

72906-87-7, Ascorbic acid peroxidase

RL: FFD (Food or feed use); PAC (Pharmacological activity); THU

(Therapeutic use); BIOL (Biological study); USES (Uses)

(oral compns. containing ubiquinones and nutrients for relief or prevention of xerostomia)

L4 ANSWER 2 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2008:829292 CAPLUS

DOCUMENT NUMBER: 149:155746

TITLE: Antioxidant for cosmetic, external application

medicine, and food and drink

INVENTOR(S): Kojima, Naoki; Shiraishi, Yukihide; Hisamatsu,

Fumiaki; Miyamoto, Arimasa; Kajita, Masashi

PATENT ASSIGNEE(S): Tokyo University of Science, Japan; Aputo K. K.

SOURCE: Jpn. Kokai Tokkyo Koho, 15pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2008156440	A	20080710	JP 2006-345643	20061222
PRIORITY APPLN. INFO.:			JP 2006-345643	20061222

The antioxidant consists of metal nanoparticle (1-20 nm average particle size) selected from Pt, Au, Ag, Cu, Pd, Fe, Ni, Ru, Os, and Ir; cyclodextrin; and vitamin and/or vitamin-like functional substance selected from ubiquinones, superoxide dismutase, vitamin C, bilirubin, glutathione peroxidase, peroxidase, catalase, linoleic acid, vitamin E, cysteine, uric acid,  $\alpha$ -carotene,  $\beta$ -carotene, flavonoid, riboflavin, lycopene, lutein, acetyl cysteine, astaxanthin, and . alpha.-lipoic acid. The product is compatible with other types of antioxidant, and has high antioxidn. performance.

L4 ANSWER 3 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:1453206 CAPLUS

DOCUMENT NUMBER: 148:85125

TITLE: Liposomes containing stabilized adenosine for

manufacture of antiaging cosmetics

INVENTOR(S):
Kim, Jae Yong

PATENT ASSIGNEE(S): S. Korea

SOURCE: Repub. Korea, No pp. given

CODEN: KRXXFC

DOCUMENT TYPE: Patent LANGUAGE: Korean

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIN	D	DATE	APP:	LICATIO	NO.		DATE
		_						
KR 737101	B1		20070706	KR :	2006-15	926		20060218
PRIORITY APPLN.	INFO.:			KR :	2006-15	926		20060218
AB A cosmetic	composition	for	inhibiting	skin	aging	comprising	а	liposome
containing								

adenosine having anti-aging effects and a manufacturing method thereof are provided to maintain adenosine activity without activity loss or deterioration for a long period by using liposome, so that stability and percutaneous absorbability of the adenosine are improved. The cosmetic composition for inhibiting skin aging comprises the liposome containing

of adenosine having anti-aging effects, 1.0-10.0% of lecithin, 0.1-2.0% of ceramide, 0.1-5.0% of antioxidant, 0.1-20.0% of grapefruit seed extract and 0.1-50.0% of emulsion stabilization adjuvant. The antioxidant is selected from tocopherol derivs. including tocopheryl acetate; ascorbic acid derivs. including ascorbic acid; ubiquinone; idebenone; . alpha.-lipoic acid; BHT; and grapefruit extract
The emulsion stabilization adjuvant is selected from propylene glycol, butylene glycol, glycerin, xylitol and natural polymer compound The liposome is prepared by passing a mixture containing purified water, lecithin, ceramide, antioxidant, grape fruit seed extract and adenosine through a high pressure homogenizer. The cosmetic composition is formulated as skin lotion, nutrition lotion, nutrition cream, massage cream or nutrition essence.

L4 ANSWER 4 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2007:1386859 CAPLUS

DOCUMENT NUMBER: 148:16950

TITLE: Phospholipid- $\alpha$ -lipoic acid-antioxidant complexes

and cosmetics and topical preparations containing them

INVENTOR(S): Ueda, Takeshi; Ohashi, Yukihiro

PATENT ASSIGNEE(S): Nippon Fine Chemical Co., Ltd., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 35pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007314427	A	20071206	JP 2006-142199	20060523
PRIORITY APPLN. INFO.:			JP 2006-142199	20060523

IT Phospholipids, biological studies

Sterols

Ubiquinones

RL: COS (Cosmetic use); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (complexes; preparation of complexes of phospholipids,  $\alpha$  - lipoic acid, antioxidants, and optional sterols for cosmetics and skin prepns. by removing solvent from their organic solvent solution)

L4 ANSWER 5 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:1356896 CAPLUS

DOCUMENT NUMBER: 146:87629

TITLE: Anti-fatigue compositions containing reduced

ubiquinones and lipoic acid

INVENTOR(S): Kishida, Hideyuki; Kawabe, Taizou; Hosoe, Kazunori

PATENT ASSIGNEE(S): Kaneka Corporation, Japan SOURCE: PCT Int. Appl., 34pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND DATE	APPLICATION NO.	DATE		
WO 2006137441	A1 20061228	WO 2006-JP312415	20060621		
W: AE, AG, AL,	AM, AT, AU, AZ,	BA, BB, BG, BR, BW, BY,	BZ, CA, CH,		
CN, CO, CR,	CU, CZ, DE, DK,	DM, DZ, EC, EE, EG, ES,	FI, GB, GD,		
GE, GH, GM,	HN, HR, HU, ID,	IL, IN, IS, JP, KE, KG,	KM, KN, KP,		

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KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN,
             MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU,
             SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG,
             US, UZ, VC, VN, ZA, ZM, ZW
         RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ,
             CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH,
             GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY,
             KG, KZ, MD, RU, TJ, TM
                                20080312
                                           EP 2006-767074
                          Α1
         R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE,
             IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR
PRIORITY APPLN. INFO.:
                                            JP 2005-184463
                                                                A 20050624
                                            WO 2006-JP312415
                                                                 W 20060621
REFERENCE COUNT:
                         6
                               THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS
                               RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT
     Anti-fatigue compositions containing reduced ubiquinones and
     lipoic acid
ΙT
     Antioxidants
     Bread
     Fatigue, biological
     Health food
    Margarine
     Pharmaceutical capsules
     Pharmaceutical creams
     Pharmaceutical emulsions
     Pharmaceutical ointments
     Pharmaceutical powders
     Pharmaceutical tablets
        (anti-fatigue compns. containing reduced ubiquinones and
        lipoic acid)
     Carotenes, biological studies
ΙT
     Flavonoids
     RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological
     study); USES (Uses)
        (antioxidant; anti-fatigue compns. containing reduced ubiquinones
        and lipoic acid)
ΙT
     Beverages
        (health; anti-fatigue compns. containing reduced ubiquinones and
        lipoic acid)
ΙT
     Phenols, biological studies
     RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological
     study); USES (Uses)
        (polyphenols, nonpolymeric, antioxidant; anti-fatigue compns. containing
        reduced ubiquinones and lipoic acid)
ΤТ
     Ubiquinones
     RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological
     study); USES (Uses)
        (reduced; anti-fatigue compns. containing reduced ubiquinones and
        lipoic acid)
ΙT
     Pharmaceutical capsules
        (soft capsules; anti-fatique compns. containing reduced ubiquinones
        and lipoic acid)
     303-98-0, Coenzyme Q10
ΙT
     RL: FFD (Food or feed use); RCT (Reactant); THU (Therapeutic use); BIOL
     (Biological study); RACT (Reactant or reagent); USES (Uses)
        (anti-fatigue compns. containing reduced ubiquinones and
        lipoic acid)
     992-78-9P, Reduced coenzyme Q10
ΤТ
     RL: FFD (Food or feed use); SPN (Synthetic preparation); THU (Therapeutic
     use); BIOL (Biological study); PREP (Preparation); USES (Uses)
```

(anti-fatigue compns. containing reduced ubiquinones and lipoic acid)

IT 917360-04-4

RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(anti-fatigue compns. containing reduced ubiquinones and lipoic acid)

IT 50-81-7, Vitamin c, biological studies 70-18-8, Glutathione, biological studies 502-65-8, Lycopene 1406-18-4, Vitamin E 7772-98-7, Sodium thiosulfate 7782-49-2, Selenium, biological studies 9001-05-2, Catalase 9001-48-3, Glutathione reductase 9054-89-1, Superoxide dismutase 11103-57-4, Vitamin A 12001-76-2, Vitamin B 23288-49-5, Probucol 50812-37-8, Glutathione-S-transferase 72906-87-7, Ascorbic acid peroxidase 72909-34-3, Pyrroloquinoline quinone 174882-69-0, Pycnogenol 620591-12-0, Flavangenol RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological

RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(antioxidant; anti-fatigue compns. containing reduced ubiquinones and lipoic acid)

L4 ANSWER 6 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:1107272 CAPLUS

DOCUMENT NUMBER: 146:212322

TITLE: Topical nutritional antioxidants

AUTHOR(S): Burke, Karen E.

CORPORATE SOURCE: Department of Dermatology, Mount Sinai Medical Center

and Department of Medicine, Cabrini Medical Center,

New York, NY, USA

SOURCE: Cosmetic Science and Technology Series (2006),

30 (Cosmetic Formulation of Skin Care Products),

377-402

CODEN: CSTSEV; ISSN: 0887-6541

PUBLISHER: Taylor & Francis

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

REFERENCE COUNT: 170 THERE ARE 170 CITED REFERENCES AVAILABLE FOR

THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

IT Skin, disease

(photoaging;  $\alpha$  -lipoic acid and

 $\begin{tabular}{lll} \begin{tabular}{lll} \begin{$ 

photoaging)

L4 ANSWER 7 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:909010 CAPLUS

DOCUMENT NUMBER: 145:291901

TITLE: Foods containing antidiabetic agents and .

alpha.-lipoic acid and/or

ubiquinones

INVENTOR(S): Takagaki, Kinya

PATENT ASSIGNEE(S): Toyo Shinyaku Co., Ltd., Japan SOURCE: Jpn. Kokai Tokkyo Koho, 10pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006230225	A	20060907	JP 2005-46310	20050222

```
PRIORITY APPLN. INFO.:
                                             JP 2005-46310
                                                                     20050222
     Foods containing antidiabetic agents and .alpha.-lipoic
     acid and/or ubiquinones
     food antidiabetic antiobesity alpha lipoic
ST
     acid ubiquinone; chlorogenic acid sweetpotato leaf ext
     lipoic acid antidiabetic
ΙT
     Antidiabetic agents
     Antiobesity agents
     Dietary fiber
     Health food
     Obesity
        (antidiabetic and antiobesity agents containing \alpha -
        lipoic acid and/or ubiquinones for foods)
ΤT
     Saponins
     Triterpenes
       Ubiquinones
     RL: FFD (Food or feed use); PAC (Pharmacological activity); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (antidiabetic and antiobesity agents containing \boldsymbol{\alpha} -
        lipoic acid and/or ubiquinones for foods)
ΤT
     Eriobotrya japonica
     Gymnema
     Ipomoea batatas
     Psidium quajava
     Terminalia
        (exts.; antidiabetic and antiobesity agents containing \alpha -
        lipoic acid and/or ubiquinones for foods)
ΤТ
     Tannins
     RL: FFD (Food or feed use); PAC (Pharmacological activity); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (hydrolyzates; antidiabetic and antiobesity agents containing
        \alpha -lipoic acid and/or
        ubiquinones for foods)
ΤТ
     Diabetes mellitus
        (non-insulin-dependent; antidiabetic and antiobesity agents containing
        \alpha -lipoic acid and/or
        ubiquinones for foods)
     327-97-9D, Chlorogenic acid, derivs.
                                             476-66-4, Ellagic acid 1200-22-2,
     \alpha -Lipoic acid
                      4547-24-4, Corosolic
     acid
     RL: FFD (Food or feed use); PAC (Pharmacological activity); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (antidiabetic and antiobesity agents containing \alpha -
        lipoic acid and/or ubiquinones for foods)
ΤT
     9004-53-9, Dextrin
     RL: FFD (Food or feed use); PAC (Pharmacological activity); THU
     (Therapeutic use); BIOL (Biological study); USES (Uses)
        (nondigestible; antidiabetic and antiobesity agents containing
        \alpha -lipoic acid and/or
        ubiquinones for foods)
     ANSWER 8 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:
                          2006:679304 CAPLUS
DOCUMENT NUMBER:
                          145:76718
TITLE:
                         Method using ubiquinone and/or ubiquinol for treating
                         and preventing male infertility
INVENTOR(S):
                         Littarru, Gian Paolo; Balercia, Giancarlo
PATENT ASSIGNEE(S):
                         Italy
SOURCE:
                         U.S. Pat. Appl. Publ., 7 pp.
                         CODEN: USXXCO
DOCUMENT TYPE:
                         Patent
```

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE

US 20060154993 A1 20060713 US 2005-300996 20051215

US 2004-637420P P 20041217

TYPO: US 2004-637420P Carpitine, derivs KIND DATE APPLICATION NO. DATE PRIORITY APPLN. INFO.: 57-00-1, Creatine 541-15-1, Carnitine 541-15-1D, Carnitine, derivs.

7732-18-5, Water, biological studies 57828-26-9, Lipoic

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (ubiquinone and/or ubiquinol for treating and preventing male infertility)

ANSWER 9 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:383921 CAPLUS

DOCUMENT NUMBER: 144:404406

TITLE:  $R-(+)-\alpha$ -Lipoic acid compounds and combinations

for the prevention of diabetes

INVENTOR(S): Wessel, Klaus; Rundfeldt, Chris; Russ, Peter

Viatris G.M.S....
PCT Int. Appl., 28 pp. PATENT ASSIGNEE(S): Viatris G.m.b.H. & Co. K.-G., Germany

SOURCE:

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO. KIND DATE APPLICATION NO. DATE -----WO 2006042666 A1 20060427 WO 2005-EP10927 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM A1 20080424 US 20080095741 US 2007-785579 DE 2004-102004050948A 20041018 PRIORITY APPLN. INFO.: WO 2005-EP10927 A1 20051011

THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS REFERENCE COUNT: RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

Interferons

Steroids, biological studies

Tocopherols

Ubiquinones

RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

 $(R-(+)-\alpha$  -lipoic acid compds. and

combinations for prevention of diabetes)

ANSWER 10 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN T. 4

ACCESSION NUMBER: 2006:167404 CAPLUS

DOCUMENT NUMBER: 144:211757 TITLE: Lipoic acid concentrate for reducing diets.

INVENTOR(S):
Behnam, Dariush

PATENT ASSIGNEE(S): Aquanova German Solubilisate Technologies (AGT)

G.m.b.H., Germany

SOURCE: PCT Int. Appl., 14 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

W0 2006018301  W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW  RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM  EP 178119  A1 20070509  EP 2005-776037  20050818  R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, AL, BA, HR, MK, YU  JP 2007513994  T 20070513994  T 20070513  PRIORITY APPLN. INFO:  ER 2006-287384  A1 20070222  US 2006-392957  20060330  PRIORITY APPLN. INFO:  ER 2007-18 CN 2005-80025712  20050818  REFERENCE COUNT:  THERE ARE 2 CITED REFERENCES AVAILABLE FOR THE RECORD. ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE RE FOL OR CONTINUE ALL CITATIONS AVAILABLE IN THE REFOL CONTINUE				PATENT NO.					KIND DATE			APPLICATION NO.						DATE 		
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US 20070043106 RIORITY APPLN. INFO.:  DE 2004-102004040178A 20040818 WO 2005-EP8940 W 20050818  EFERENCE COUNT:  2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THE RECORD. ALL CITATIONS AVAILABLE IN THE RECORD. ALL CITATIONS		CN	1010	0154	3		Α		2007	0718		CN 2	005-	8002	5712		2	0050	818	
RIORITY APPLN. INFO.:  DE 2004-102004040178A 20040818 WO 2005-EP8940 W 20050818  EFERENCE COUNT:  2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THE RECORD. ALL CITATIONS AVAILABLE IN THE REFORM B The invention relates to an anhydrous concentrate consisting of ubiquing Q10, a medium-chain triglyceride or triglyceride mixture, alphanipoic acid and/or the derivs. thereof, and at least one emulsifier authorized for food or medicaments and having an HLB value of between 9 and 19.  T 124-07-2, Caprylic acid, biological studies 303-98-0, Ubiquinone Q10 334-48-5, Capric acid 462-20-4, Dihydrolipoic acid 1200-22-2, a-Lipoic acid 3884-47-7, Dihydrolipoamide 9005-64-5, Polysorbate 20 9005-65-6, Polysorbate 80 RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)		US	2006	0287	384		A1		2006	1221		US 2	006-	5729	18		2	0060.	321	
WO 2005-EP8940 W 20050818  EFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THE RECORD. ALL CITATIONS AVAILABLE IN THE REFORM  B The invention relates to an anhydrous concentrate consisting of ubiquing Q10, a medium-chain triglyceride or triglyceride mixture, .alpha.— lipoic acid and/or the derivs. thereof, and at least one emulsifier authorized for food or medicaments and having an HLB value of between 9 and 19.  T 124-07-2, Caprylic acid, biological studies 303-98-0, Ubiquinone Q10 334-48-5, Capric acid 462-20-4, Dihydrolipoic acid 1200-22-2, α-Lipoic acid 3884-47-7, Dihydrolipoamide 9005-64-5, Polysorbate 20 9005-65-6, Polysorbate 80  RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)		US	2007	0043	106		A1		2007	0222		US 2	006-	3929	57		2	0060.	330	
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emulsifier authorized for food or medicaments and having an HLB value of between 9 and 19. $124-07-2\text{, Caprylic acid, biological studies} \qquad 303-98-0\text{, Ubiquinone} \\ 210 \qquad 334-48-5\text{, Capric acid} \qquad 462-20-4\text{, Dihydrolipoic acid} \qquad 1200-22-2\text{,} \\ \alpha\text{-Lipoic acid} \qquad 3884-47-7\text{, Dihydrolipoamide} \qquad 9005-64-5\text{, Polysorbate} \\ 20 \qquad 9005-65-6\text{, Polysorbate} \qquad 80 \\ \text{RL: FFD (Food or feed use); THU (Therapeutic use); BIOL (Biological study); USES (Uses)}$																	alph	a		
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study); USES (Uses)																				
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(lipoic acid concentrate for reducing diets)		stı																		
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ACCESSION NUMBER: 2006:149000 CAPLUS

DOCUMENT NUMBER: 144:219302

TITLE: Composition comprising mixture of ubiquinones, lactic

acid dehydrogenase inhibitor, compound capable of augmenting oxidative phosphorylation and compound that antagonize gluconeogenesis from non-glucose carbon

based substrates for treatment of cancer

INVENTOR(S): Mazzio, Elizabeth Anne; Soliman, Karam F.

PATENT ASSIGNEE(S): USA

U.S. Pat. Appl. Publ., 20 pp., Cont.-in-part of U.S. SOURCE:

Ser. No. 909,590, abandoned.

CODEN: USXXCO

Patent DOCUMENT TYPE: English LANGUAGE:

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

	PATENT NO.	KIND	DATE	APPLICATION NO.		DATE
					_	
	US 20060035981	A1	20060216	US 2005-233279		20050920
	US 20070248693	A1	20071025	US 2007-711883		20070227
PRIOR	RITY APPLN. INFO.:			US 2003-491841P	P	20030802
				US 2004-540525P	P	20040129
				US 2004-909590	В2	20040802
				US 2005-233279	A2	20050920
ΙT	50-18-0, Cyclophosp	hamide	50-28-2, E	stradiol, biological	stı	ıdies
	50-44-2, Mercaptopu	rine !	50-76-0, Act	inomycin D 50-81-7,	, As	scorbic aci
	biological studies	50-91-	-9, Floxurid	ine $51-21-8$ , Fluoro	oura	acil
	51-75-2, Mechloreth	amine	52-24-4, Th	iotepa 53-19-0, Mit	tota	ane
	55-98-1, Busulfan	56-81-	5, Glycerol,	biological studies	5	7-22-7,

id, Vincristine 58-85-5, Biotin 59-05-2, Methotrexate 59-30-3, Folic Acid, biological studies 59-43-8, Thiamin, biological studies 59-67-6, Niacin, biological studies 60-18-4, Tyrosine, biological studies 63-91-2, Phenylalanine, biological studies 65-23-6, Pyridoxine 68-19-9, Vitamin B12 77-92-9, Citric acid, biological studies 83-88-5, Riboflavin, biological studies 99-96-7, biological studies 99-96-7D, p-Hydroxybenzoic acid, polyprenol esters 117-39-5, Quercetin 125-84-8, Aminoglutethimide 127-07-1, Hydroxyurea 146-14-5, Flavin adenine dinucleotide 146-17-8, Flavin mononucleotide 147-94-4, Cytarabine 148-82-3, Melphalan 154-42-7, Thioguanine 154-93-8, Carmustine 156-39-8 299-75-2, Treosulfan 305-03-3, Chlorambucil 306-23-0 480-16-0, Morin 488-81-3, Ribitol 582-60-5, 5,6-Dimethylbenzimidazole 645-05-6, Hexamethylmelamine 671-16-9, Procarbazine 865-21-4, Vinblastine 989-51-5, Epigallocatechin gallate 1404-00-8, Mitomycin 1990-01-8, Glaucarubolone 2382-48-1, Ubichromenol 2535-20-8 2920-99-2 3778-73-2, Ifosfamide 4342-03-4, Dacarbazine 7400-08-0 7439-95-4, Magnesium, biological 6703-77-1, Ubichromanol studies 8059-24-3, Vitamin B6 9005-25-8, Starch, biological studies 9015-68-3, Asparaginase 10540-29-1, Tamoxifen 11056-06-7, Bleomycin 13909-09-6, Semustine 13010-47-4, Lomustine 13311-84-7, Flutamide 15663-27-1, Cisplatin 17528-72-2, Tetrahydrobiopterin 18378-89-7, Plicamycin 18883-66-4, Streptozocin 20830-81-3, Daunorubicin 21679-14-1, Fludarabine 23214-92-8, Doxorubicin 25316-40-9, Adriamycin 29767-20-2, Teniposide 33069-62-4, Taxol 33419-42-0, Etoposide 41575-94-4, Carboplatin 53643-48-4, Vin-desine 53714-56-0, Leuprolide 53910-25-1, Pentostatin 56420-45-2, Epirubicin 57828-26-9, Lipoic acid 58957-92-9, Idarubicin 61825-94-3, Oxaliplatin 65271-80-9, Mitozantrone 71486-22-1, Vinorelbine 71491-01-5 95058-81-4, Gemcitabine 97682-44-5, Irinotecan 112887-68-0, Tomu-dex 114977-28-5, Taxotere 123123-32-0, Bullata-cin

123948-87-8, Topotecan

RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses) (composition comprising mixture of ubiquinones, lactic acid dehydrogenase inhibitor, compound capable of augmenting oxidative phosphorylation and compound that antagonize gluconeogenesis for treatment of cancer)

ANSWER 12 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN T. 4

ACCESSION NUMBER: 2006:120433 CAPLUS

DOCUMENT NUMBER: 144:176952 TITLE: Whitening composition containing reduced coenzyme Q INVENTOR(S): Kitamura, Shiro; Ueda, Takahiro; Ueda, Yasuyoshi; Kishida, Hideyuki; Fujii, Kenji; Hosoe, Kazunori Kaneka Corporation, Japan PATENT ASSIGNEE(S): SOURCE: PCT Int. Appl., 37 pp. CODEN: PIXXD2 DOCUMENT TYPE: Patent LANGUAGE: Japanese FAMILY ACC. NUM. COUNT: PATENT INFORMATION: KIND DATE PATENT NO. APPLICATION NO. \_\_\_\_ WO 2006013665 A1 20060209 WO 2005-JP8968 20050517 W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM JP 2004-346032 EP 2005-744119 JP 2006070016 Α 20060316 20041130 20070530 EP 1790238 A1 20050517 R: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LI, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR US 2007-653974 20070117 US 20070196349 A1 20070823 A 20040802 JP 2004-225051 PRIORITY APPLN. INFO.: JP 2004-346032 A 20041130 W 20050517 WO 2005-JP8968 REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT 50-81-7, L-Ascorbic acid, biological studies 69-72-7, Salicylic acid, biological studies 70-18-8, Glutathione, biological studies 77-92-9, Citric acid, biological studies 79-83-4, Pantothenic acid 97-59-6, 108-46-3, Resorcin, biological studies 123-31-9, Allantoin 1,4-Benzenediol, biological studies 123-31-9D, Hydroquinone, glycosides 137-08-6, Calcium pantothenate 303-95-7, Ubiquinone 7 303-97-9, Ubiquinone 9 303-98-0 476-66-4, Ellagic acid 484-59-3, Ubiquinol 7 497-76-7, Arbutin 501-30-4, Kojic acid 606-06-4, Ubiquinone 2 727-81-1, Ubiquinone 1 992-78-9, Reduced coenzyme Q10 1065-31-2, Ubiquinone 6 1173-76-8, Ubiquinone 3 1197-18-8, Tranexamic acid 1406-18-4, Vitamin E 2216-51-5D, derivs. 2394-68-5, Ubiquinone 8 4370-61-0, Ubiquinone 5 4370-62-1, Ubiquinone 4 5677-54-3, Ubiquinol 9 5677-55-4, Ubiquinol 2 5677-58-7, Ubiquinol 6 9002-66-8, Placental hormone 11042-64-1,  $\gamma$ -Oryzanol 17162-29-7, Menthyl lactate 18979-61-8, Rucinol 24663-35-2, Ubiquinone 11 24663-36-3, Ubiquinone 12 52590-98-4, Ubiquinol 1 57828-26-9, Lipoic acid 69422-80-6, Ubiquinol 3 69422-81-7, Ubiquinol 4 72909-34-3, Pyrroloquinoline quinone 74075-00-6, Ubiquinol 8 74075-01-7, Ubiquinol 174882-69-0, Pycnogenol 475147-15-0 475147-16-1 620591-12-0,

RL: COS (Cosmetic use); FFD (Food or feed use); BIOL (Biological study); USES (Uses)

(skin-lightening cosmetics and foods containing ubiquinols and ubiquinones and antioxidants)

Flavangenol

L4 ANSWER 13 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:439328 CAPLUS

DOCUMENT NUMBER: 144:146923

TITLE: Small-molecular defense troupe

AUTHOR(S): Grune, Tilman; Schroeder, Peter; Siems, Werner

CORPORATE SOURCE: Duesseldorf, Germany

SOURCE: Pharmazeutische Zeitung (2005), 150(16), 32-34,36-37

CODEN: PHZIAP; ISSN: 0031-7136

PUBLISHER: Govi-Verlag Pharmazeutischer Verlag GmbH

DOCUMENT TYPE: Journal; General Review

LANGUAGE: German

AB A review on the protective roles played in cells and tissues by low-mol.-weight antioxidants such as uric acid, ubiquinones, lipoic acid, vitamins C and E, carotenoids, and phenolic compds.

L4 ANSWER 14 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:333712 CAPLUS

DOCUMENT NUMBER: 142:475161

TITLE: Low molecular weight antioxidants

AUTHOR(S): Grune, Tilman; Schroeder, Peter; Biesalski, Hans K. CORPORATE SOURCE: Research Institute of Environmental Medicine, Heinrich

Heine University Duesseldorf, Duesseldorf, 40225,

Germany

SOURCE: Handbook of Environmental Chemistry (2005), Volume 2,

Issue Pt. O, 77-90. Editor(s): Grune, Tilman.

Springer: Berlin, Germany.

CODEN: 45NZAP

DOCUMENT TYPE: Conference; General Review

LANGUAGE: English

REFERENCE COUNT: 64 THERE ARE 64 CITED REFERENCES AVAILABLE FOR THIS

RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ST review ubiquinone uric lipoic acid vitamin C

E antioxidant

L4 ANSWER 15 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:965124 CAPLUS

DOCUMENT NUMBER: 141:401018

TITLE: A wound-cover material containing radical scavengers
INVENTOR(S): Michalek, Jiri; Novak, Pavel; Straskraba, Ilja; Vacik,

Jiri; Wirthova, Eva

PATENT ASSIGNEE(S): Ustav Makromolekularni Chemie Akademie Ved Ceske

Republiky, Czech Rep.; Wilens, Spol.S.R.O.

SOURCE: PCT Int. Appl., 11 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND DATE	APPLICATION NO.	DATE			
WO 2004096367	A1 200411	111 WO 2004-CZ22	20040422			
W: AE, AG, AI	, AM, AT, AU, A	AZ, BA, BB, BG, BR, BW,	BY, BZ, CA, CH,			
CN, CO, CE	, CU, CZ, DE, I	DK, DM, DZ, EC, EE, EG,	ES, FI, GB, GD,			
GE, GH, GN	, HR, HU, ID, I	IL, IN, IS, JP, KE, KG,	KP, KR, KZ, LC,			
LK, LR, LS	, LT, LU, LV, M	MA, MD, MG, MK, MN, MW,	MX, MZ, NA, NI,			
NO, NZ, ON	, PG, PH, PL, F	PT, RO, RU, SC, SD, SE,	SG, SK, SL, SY,			
TJ, TM, Ti	, TR, TT, TZ, U	JA, UG, US, UZ, VC, VN,	YU, ZA, ZM, ZW			
RW: BW, GH, GN	, KE, LS, MW, M	MZ, SD, SL, SZ, TZ, UG,	ZM, ZW, AM, AZ,			
BY, KG, KZ	, MD, RU, TJ, T	IM, AT, BE, BG, CH, CY,	CZ, DE, DK, EE,			

ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

CZ 295826 B6 20051116 CZ 2003-1187 20030428
PRIORITY APPLN. INFO.: CZ 2003-1187 A 20030428
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB A material for wound covering consists of a polymer carrier based on lightly crosslinked hydrophilic polymers or copolymers formed from one or more monomers, a crosslinker and a physiol. biol. active substance with radical scavenger properties. The monomers are selected from the group including 2-hydroxyethyl methacrylate, diethylene glycol methacrylate, triethylene glycol methacrylate, poly(ethylene glycol methacrylate), glycerol methacrylate, alkyl methacrylates, acrylic or methacrylic acid and its salts. The crosslinkers are diacrylate or dimethacrylate esters (preferably ethylene dimethacrylate, diethylene glycol dimethacrylate, triethylene glycol dimethacrylate) in amts. up to 5 weight% in the polymerization

mixture A physiol. biol. active substance with radical scavenging properties is selected from the group of vitamins A, carotenoids, vitamins E, ubiquinones, flavonoids, nicotinamide, uric acid, bilirubin, lipoic acid, glutathione, and melatonin. For example, a mixture of 5.00 g 2-hydroxyethyl methacrylate, 0.10 g ethylene dimethacrylate, 0.50 g benzoin Et ether, 4.83 g poly(ethylene glycol) 300 and 0.10 g retinol acetate was stirred and transferred into a polymerization device consisting of two parallel polypropylene plates separated with a spacer. The device was placed under a source of UV light for 30 min. The obtained film was swollen in distilled water and then in an emulsion containing 47.5% distilled water, 48% poly(ethylene glycol) 300, 4% tocopherol acetate and 0.5% surfactant Polysorbate 80. The film dimensions were adjusted, the film was sealed into an aluminum foil lined with polypropylene and sterilized with steam at 121° for 20 min.

L4 ANSWER 16 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:343628 CAPLUS

DOCUMENT NUMBER: 141:421601

TITLE: Human mitochondrial thioredoxin reductase reduces

cytochrome  $\ensuremath{\text{c}}$  and confers resistance to complex III

inhibition

AUTHOR(S): Nalvarte, Ivan; Damdimopoulos, Anastasios E.; Spyrou,

Giannis

CORPORATE SOURCE: Center for Biotechnology, Department of Biosciences at

Novum, Karolinska Institutet, Huddinge, SE-141 57,

Swed.

SOURCE: Free Radical Biology & Medicine (2004), 36(10),

1270-1278

CODEN: FRBMEH; ISSN: 0891-5849

PUBLISHER: Elsevier DOCUMENT TYPE: Journal LANGUAGE: English

REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB The ubiquitously expressed mammalian thioredoxin reductases are selenoproteins that together with NADPH regenerate active reduced thioredoxins and are involved in diverse actions mediated by redox control. Two main forms of mammalian thioredoxin reductases have been isolated, one cytosolic (TrxR1) and one present in mitochondria (TrxR2). Although the principal target for TrxRs is thioredoxin, the cytosolic form can regenerate several important antioxidants such as ascorbic acid, lipoic acid, and ubiquinone. In this study we demonstrate that cytochrome c is a substrate for both TrxR1 and TrxR2. In

addition, cells overexpressing TrxR2 are more resistant to impairment of complex III in the mitochondrial respiratory chain upon both antimycin A and myxothiazol treatments, suggesting a complex III bypassing function of TrxR2. Furthermore, we show that cytochrome c is reduced by TrxR2 in vitro, not only by using NADPH as an electron donor but also by using NADH, pointing at TrxR2 as an important redox protein on complex III impairment. These findings may be valuable in understanding respiratory disorders in mitochondrial diseases.

ANSWER 17 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:144851 CAPLUS

DOCUMENT NUMBER: 140:374351

TITLE: The role of antioxidant micronutrients in the

prevention of diabetic complications

AUTHOR(S): Bonnefont-Rousselot, Dominique

CORPORATE SOURCE: Laboratoire de Biochimie Metabolique et Clinique (EA

3617), Faculte de Pharmacie, Paris, Fr.

SOURCE: Treatments in Endocrinology (2004), 3(1), 41-52

CODEN: TERNAN; ISSN: 1175-6349

PUBLISHER: Adis International Ltd. DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

THERE ARE 171 CITED REFERENCES AVAILABLE FOR REFERENCE COUNT: 171

THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

A review. Diabetes mellitus is associated with an increased production of reactive oxygen species and a reduction in antioxidant defenses. This leads to oxidative stress, which is partly responsible for diabetic complications. Tight glycemic control is the most effective way of preventing or decreasing these complications. Nevertheless, antioxidant micronutrients can be proposed as adjunctive therapy in patients with diabetes. Indeed, some minerals and vitamins are able to indirectly participate in the reduction of oxidative stress in diabetic patients by improving glycemic control and/or are able to exert antioxidant activity. This article reviews the use of minerals (vanadium, chromium, magnesium, zinc, selenium, copper) and vitamins or cofactors (tocopherol [vitamin E], ascorbic acid [vitamin C], ubidecarenone [ubiquinone; coenzyme Q], nicotinamide, riboflavin, thioctic acid [lipoic acid ], flavonoids) in diabetes, with a particular focus on the prevention of diabetic complications. Results show that dietary supplementation with micronutrients may be a complement to classical therapies for preventing and treating diabetic complications. Supplementation is expected to be more effective when a deficiency in these micronutrients exists. Nevertheless, many clin. studies have reported beneficial effects in individuals without deficiencies, although several of these studies were short term and had small sample sizes. However, a randomized, double-blind, placebo-controlled, multicenter trial showed that thioctic acid at an oral dosage of 800 mg/day for 4 mo significantly improved cardiac autonomic neuropathy in type 2 diabetic patients. Above all, individuals with diabetes should be educated about the importance of consuming adequate amts. of vitamins and minerals from natural food sources, within the constraints of recommended sugar and carbohydrate intake.

ANSWER 18 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:36653 CAPLUS

DOCUMENT NUMBER: 140:81888

TITLE: Cosmetic or dermatological preparations containing

lpha-lipoic acid and stabilizers

INVENTOR(S): INVENTOR(S): Buerger, Anette; Raschke, Thomas PATENT ASSIGNEE(S): Beiersdorf AG, Germany

Ger. Offen., 23 pp. SOURCE:

CODEN: GWXXBX

DOCUMENT TYPE: Patent LANGUAGE: German

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

KIND DATE APPLICATION NO. DATE PATENT NO. \_\_\_\_\_ \_\_\_\_ DE 10229995 A1 20040115 DE 2002-10229995 20020703 DE 2002-10229995 20020703 PRIORITY APPLN. INFO.: REFERENCE COUNT: 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

The invention concerns cosmetic and dermatol. compns. that contain AB  $\alpha$ -lipoic acid; the compns. have a pH value of 7.1-8.5 and contain antioxidants, light protecting substances and other ingredients. Thus an O/W cream included (weight/weight%): glyceryl stearate 2; myristyl myristate 1; stearyl alc. 2; cetyl alc. 1; hydrogenated coco fatty glycerides 2; butylene glycol dicaprylate/dicaprate 2; ethylhexyl coco fatty acid ester 3; vaseline 2; cyclomethicone 4; dicaprylyl ether 1; octocrylene 5; bis-ethylhexyl oxyphenol methoxyphenyl triazine 1; Ubiquinone (Q10) 0.05; .alpha.-lipoic acid 0.1; iminodisuccinate sodium salt 0.1; phenoxyethanol 0.3; paraben 0.6; diazolidinyl urea 0.25; Xanthan gum 0.1; carbomer 0.05; glycerin 10; butylene glycol 2, dyes 0.05; perfume q.s.; sodium hydroxide to pH 7.2-7.8 q.s.; water to 100.

ANSWER 19 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

inactivation of the enzyme by the oxidants.

ACCESSION NUMBER: 2003:268218 CAPLUS

DOCUMENT NUMBER: 139:116293

TITLE: Enhanced production of benzoylformate reductase in

Enterococcus faecalis under oxidative stress established by natural electron carriers

Baik, Sang-Ho; Cho, Pan-Ki; Kim, Mee-Hae; Yun, Sei-Eok AUTHOR(S): CORPORATE SOURCE: Marine Biotechnology Institute, Kamaishi City, Iwate,

026-0001, Japan

Journal of Microbiology and Biotechnology (2003), SOURCE:

13(1), 104-109

CODEN: JOMBES; ISSN: 1017-7825

Korean Society for Microbiology and Biotechnology Journal PUBLISHER:

DOCUMENT TYPE: LANGUAGE: English

REFERENCE COUNT: 22 THERE ARE 22 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

Enhancement of the production of benzoylformate reductase (BFR) was attempted under oxidative stress established by natural electron carriers. . alpha.-Lipoic acid (LA), FAD, and ubiquinone (UQ) did not inhibit growth of E. faecalis when their concns. were as high as 10  $\mu\text{M}$ , while H2O2 and Me viologen (MV2+) inhibited the bacterial growth. BFR activity in the bacterial extract had increased rapidly after  $\hat{1}$  h of cultivation after the addition of 4  $\mu M$  of natural electron carriers, and the activity was maintained during further cultivation. BFR activity of the cells treated with the natural electron carriers was 40% higher than that of the control. In the presence of 4  $\mu\text{M}$  H2O2 and MV2+, BFR activity increased, reaching the highest activity at about 5 h cultivation, and then decreased with further cultivation. It seems that natural electron carriers not only stimulate the induction of BFR, but also stabilize the enzyme. BFR was hardly affected by LA, FAD, and UQ, while H2O2 and MV2- inactivated the crude enzyme. The decrease of BFR activity in the presence of H2O2 and MV2+ might be ascribed to

L4 ANSWER 20 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:223482 CAPLUS

DOCUMENT NUMBER: 139:4417

TITLE: What's the news about cholesterol?

AUTHOR(S): Passi, S.; Dmitrieva, A.; Stancato, A.; Cocchi, M. CORPORATE SOURCE: IDI (IRCCS), Direttore del "Centro di Invecchiamento

Cellulare", IDI (IRCCS), Rome, Italy

SOURCE: Progress in Nutrition (2002), 4(2), 85-98

CODEN: PNRUAT; ISSN: 1129-8723

PUBLISHER: Casa Editrice Mattioli DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

A review. Free cholesterol (CH) is not easily peroxidizable in vitro following non critical oxidative attacks, including autoxidn. up to 9 days, Fenton reaction up to 30 min, UV irradiation up to 10.5 J/cm2 dose. It becomes peroxidated under very drastic oxidant conditions (>20 J/cm2 UV dose or >40 min of Fenton reaction, with generation of cholesterol oxides, such as epoxides, cholest-5-ene diols, cholest-5-ene dione etc.). These conditions are inadmissible for living mammalian cells, in which it is associated with a multitude of other biomols., in particular antioxidants and FUFA, that are oxidized more easily and preferably in comparison with cholesterol, and therefore are able to protect it against oxidative insults. CH is the main sterol present in human tissues, while in plasma or serum cholesteryl esters represent 80-85% of total cholesterol. In plasma of normal individuals, 65-80% of fatty acid moieties of cholesteryl esters are constituted by n-6 PUFA, in particular C18:2 and C20:4. These polyunsatd. esters, contrary to free cholesterol, are easily impaired by oxidative expts., but the degradation concerns exclusively PUFA moieties of the mols. Since the higher the number of double bonds in a PUFA, the more susceptible to peroxidn. it becomes, arachidonic acid undergoes a significantly more rapid and massive decomposition than linoleic acid, while stearic acid results unaffected. Our criticism towards the easy CH oxidation does not exclude absolute that lipoperoxidn. plays a primary role in the onset and development of CVD, even if it is likely that peroxidized PUFA and their degradation byproducts, as well as oxidized proteins might be preferentially involved in comparison with oxysterols. During the course of evolution several antioxidant mols., occurring at different locations within the cell, have developed to protect living systems against reactive oxygen and nitrogen species and other radicals, and to prevent uncontrolled oxidative processes. These protective compds. enter into the food chain as dietary vitamins E, C and A, ubiquinone,  $\beta$ -carotene, flavonoids, . alpha.-lipoic acid, butylated hydroxytoluene, and other synthetic antioxidants added during processing; these compds. can protect foods, and in particular lipids, from oxidation

L4 ANSWER 21 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:537892 CAPLUS

DOCUMENT NUMBER: 137:108684

TITLE: Antioxidant strategies for Alzheimer's disease

AUTHOR(S): Grundman, Michael; Delaney, Patrick

CORPORATE SOURCE: Alzheimer's Disease Cooperative Study, University of

California, La Jolla, CA, 92037, USA

SOURCE: Proceedings of the Nutrition Society (2002), 61(2),

191-202

CODEN: PNUSA4; ISSN: 0029-6651

PUBLISHER: CABI Publishing

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

REFERENCE COUNT: 146 THERE ARE 146 CITED REFERENCES AVAILABLE FOR

THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

A review. Oxidative damage is present within the brains of patients with AΒ Alzheimer's disease (AD), and is observed within every class of biomol., including nucleic acids, proteins, lipids and carbohydrates. Oxidative injury may develop secondary to excessive oxidative stress resulting from  $\beta$ -amyloid-induced free radicals, mitochondrial abnormalities, inadequate energy supply, inflammation or altered antioxidant defences. Treatment with antioxidants is a promising approach for slowing disease progression to the extent that oxidative damage may be responsible for the cognitive and functional decline observed in AD. Although not a uniformly consistent observation, a number of epidemiol. studies have found a link between antioxidant intake and a reduced incidence of dementia, AD and cognitive decline in elderly populations. In AD clin. trials mols. with antioxidant properties such as vitamin E and Ginkgo biloba extract have shown modest benefit. A clin. trial with vitamin E is currently ongoing to determine if it can delay progression to AD in individuals with mild cognitive impairment. Combinations of antioxidants might be of even greater potential benefit for AD, especially if the agents worked in different cellular compartments or had complementary activity (e.g. vitamins E, C and ubiquinone). Naturally-occurring compds. with antioxidant capacity are available and widely marketed (e.g. vitamin C, ubiquinone, lipoic acid,  $\beta$ -carotene, creatine, melatonin, curcumin) and synthetic compds. are under development by industry. Nevertheless, the clin. value of these agents for AD prevention and treatment is ambiguous, and will remain so until properly designed human trials have been performed.

L4 ANSWER 22 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:251647 CAPLUS

DOCUMENT NUMBER: 137:19512

TITLE: Phytonutrient market share

AUTHOR(S): Ibbotson, Anna

CORPORATE SOURCE: Frost and Sullivan, Oxford, UK

SOURCE: Chemistry & Industry (London, United Kingdom) (2002),

(6), 21-22

CODEN: CHINAG; ISSN: 0009-3068
PUBLISHER: Society of Chemical Industry
DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review. Phytonutrients are plant exts. thought to have health-promoting properties. Traditionally used as food additives, growth in the phytonutrients market is currently being driven by the increasing number and types of functional foods. The five main phytonutrients, also known as phytochem. groups, are vitamin E, carotenoids, flavonoids, isoflavones, and phytosterols. These are credited with antioxidant, vascular protective, anti-cancer and anti-cholesterol properties. Thiols, indoles, isoprenoids, lipoic acid, ubiquinone and limonoids are also emerging in the phytonutrient market.

L4 ANSWER 23 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2002:111692 CAPLUS

DOCUMENT NUMBER: 136:401043

TITLE: High-competition sport and oxidative damage. Role of

antioxidant nutrients

AUTHOR(S): Ribes, J. Vina

CORPORATE SOURCE: Departamento de Fisiologia, Facultad de Medicina,

Universidad de Valencia, Spain

SOURCE: Nutricion Clinica y Dietetica Hospitalaria (2001),

21(5), 20-31

CODEN: NUTCDF; ISSN: 0211-6057

PUBLISHER: Alpe Editores, S.A. DOCUMENT TYPE: Journal; General Review

LANGUAGE: Spanish

REFERENCE COUNT: 60 THERE ARE 60 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB A review. The topics include chemical definition of free radicals (superoxide, hydroxyl, singlet oxygen, peroxyl, H2O2, nitric oxide), biol. processes of their formation, toxicity of free radicals, production of oxygen free radicals during exercise, protection from reactive oxygen species by dietary antioxidants, principal antioxidant nutrients (vitamins C and E, carotenoids, flavonoids, lipoic acid, ubiquinones, allopurinol), and prevention of exercise-related oxidative damage by dietary antioxidant supplementation.

L4 ANSWER 24 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:866492 CAPLUS

DOCUMENT NUMBER: 136:16034

TITLE: Reactive oxygen species, antioxidants, and the

mammalian thioredoxin system

AUTHOR(S): Nordberg, Jonas; Arner, Elias S. J.

CORPORATE SOURCE: Department of Medical Biochemistry and Biophysics,

Karolinska Institute, Medical Nobel Institute for

Biochemistry, Stockholm, Swed.

SOURCE: Free Radical Biology & Medicine (2001), 31(11),

1287-1312

CODEN: FRBMEH; ISSN: 0891-5849

PUBLISHER: Elsevier Science Inc.
DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

L4

REFERENCE COUNT: 299 THERE ARE 299 CITED REFERENCES AVAILABLE FOR

THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

AΒ A review. Reactive oxygen species (ROS) are known mediators of intracellular signaling cascades. Excessive production of ROS may, however, lead to oxidative stress, loss of cell function, and ultimately apoptosis or necrosis. A balance between oxidant and antioxidant intracellular systems is hence vital for cell function, regulation, and adaptation to diverse growth conditions. Thioredoxin reductase (TrxR) in conjunction with thioredoxin (Trx) is a ubiquitous oxidoreductase system with antioxidant and redox regulatory roles. In mammals, extracellular forms of Trx also have cytokine-like effects. Mammalian TrxR has a highly reactive active site selenocysteine residue resulting in a profound reductive capacity, reducing several substrates in addition to Trx. Due to the reactivity of TrxR, the enzyme is inhibited by many clin. used electrophilic compds. including nitrosoureas, aurothioglucose, platinum compds., and retinoic acid derivs. The properties of TrxR in combination with the functions of Trx position this system at the core of cellular thiol redox control and antioxidant defense. In this review, the authors focus on the reactions of the Trx system with ROS mols. and different cellular antioxidant enzymes. The authors summarize the TrxR-catalyzed regeneration of several antioxidant compds., including ascorbic acid (vitamin C), selenium-containing substances, lipoic acid, and ubiquinone (Q10). The general cellular effects of  ${\tt TrxR}$ inhibition are also discussed. Dinitrohalobenzenes constitute a unique class of immunostimulatory TrxR inhibitors and the authors consider the immunomodulatory effects of dinitrohalobenzene compds. in view of their reactions with the Trx system.

ACCESSION NUMBER: 2001:798047 CAPLUS

DOCUMENT NUMBER: 135:339277

TITLE: Lipoic acid-containing pharmaceutical compositions for

treatment, prevention or inhibition of central nervous

system injuries and diseases

INVENTOR(S): Meyerhoff, James L.; Yoorick, Debra L.; Koeniq,

Michael L.

PATENT ASSIGNEE(S): United States Army Medical Research and Material

Command, USA

SOURCE: PCT Int. Appl., 47 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PA	PATENT NO.					IND DATE			APPLICATION NO.						DATE			
WC	2001	0808	51		A1	_	2001:	1101		WO 2	 001-1	 US13	043		2	0010	420	
	W:	ΑE,	AG,	AL,	ΑM,	ΑT,	ΑU,	ΑZ,	ΒA,	BB,	BG,	BR,	BY,	BZ,	CA,	CH,	CN,	
		CO,	CR,	CU,	CZ,	DE,	DK,	DM,	DZ,	EE,	ES,	FI,	GB,	GD,	GE,	GH,	GM,	
		HR,	HU,	ID,	IL,	IN,	IS,	JP,	KE,	KG,	KP,	KR,	KΖ,	LC,	LK,	LR,	LS,	
		LT,	LU,	LV,	MA,	MD,	MG,	MK,	MN,	MW,	MX,	MΖ,	NO,	NΖ,	PL,	PT,	RO,	
		RU,	SD,	SE,	SG,	SI,	SK,	SL,	ТJ,	TM,	TR,	TT,	TZ,	UA,	UG,	UZ,	VN,	
		YU,	ZA,	ZW														
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		DE,	DK,	ES,	FI,	FR,	GB,	GR,	ΙE,	ΙT,	LU,	MC,	NL,	PT,	SE,	TR,	BF,	
		ВJ,	CF,	CG,	CI,	CM,	GΑ,	GN,	GW,	ML,	MR,	NE,	SN,	TD,	ΤG			
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IT Ubiquinones

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); THU (Therapeutic use); BIOL (Biological study); USES (Uses)

(lipoic acid-containing pharmaceutical compns. for treatment, prevention or inhibition of central nervous system injuries and diseases)

L4 ANSWER 26 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:504951 CAPLUS

DOCUMENT NUMBER: 136:5244

TITLE: Effects of age and dietary antioxidants on cerebral

electron transport chain activity

AUTHOR(S): Sharman, Edward H.; Bondy, Stephen C.

CORPORATE SOURCE: Department of Community and Environmental Medicine, Center for Occupational and Environmental Health,

University of California, Irvine, Irvine, CA,

92697-1825, USA

SOURCE: Neurobiology of Aging (2001), 22(4), 629-634

CODEN: NEAGDO; ISSN: 0197-4580

PUBLISHER: Elsevier Science Inc.

DOCUMENT TYPE: Journal LANGUAGE: English

REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB Aging is a pleiotropic process involving genetic and environmental

factors. Dietary constituents may also affect senescence. Adult 3-mo-old male mice were fed diets supplemented with ubiquinone (coenzyme Q10), .alpha.-lipoic acid, melatonin, or  $\alpha$ -tocopherol for 6 mo to determine if antioxidants may reverse or inhibit the progression of certain age-associated changes in cerebral mitochondrial electron transport chain (ETS) enzyme activities. The control mice were fed a basal diet for the same 6-mo period. The activity of cytochrome c oxidase (Complex IV) increased with age, but melatonin restored the activity to levels seen in 3-mo-old animals. The activity of succinate dehydrogenase (Complex II) showed no age-related changes. This enzyme complex activity was elevated in animals fed coenzyme Q10,  $\alpha$ -lipoic acid, and  $\alpha$ -tocopherol above the values obtained with the basal diet. NADH-ubiquinone oxidoreductase (Complex I) and ubiquinol:ferricytochrome-c oxidoreductase (Complex III) activities were unchanged.

IT 9001-16-5, Cytochrome c oxidase 9002-02-2, Succinate dehydrogenase 9027-03-6, Ubiquinol:ferricytochrome-c oxidoreductase 9028-04-0, NADH-ubiquinone oxidoreductase

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)

(dietary antioxidants (coenzyme Q10,  $\alpha$  -lipoic acid, melatonin,  $\alpha$ -tocopherol) and aging effects on enzyme activities of brain electron transport chain in mice)

L4 ANSWER 27 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2001:48987 CAPLUS

DOCUMENT NUMBER: 134:285517

TITLE: Activity of alpha-lipoic acid in the protection

against oxidative stress in skin

AUTHOR(S): Podda, Maurizio; Zollner, Thomas M.;

Grundmann-Kollmann, Marcella; Thiele, Jens J.; Packer,

Lester; Kaufmann, Roland

CORPORATE SOURCE: Department of Dermatology, J. W. Goethe University,

Frankfurt, Germany

SOURCE: Current Problems in Dermatology (2001), 29(Oxidants

and Antioxidants in Cutaneous Biology), 43-51

CODEN: APDEBX; ISSN: 0070-2064

PUBLISHER: S. Karger AG
DOCUMENT TYPE: Journal
LANGUAGE: English

REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AB The activity of alpha-lipoic acid in protection against oxidative stress in skin was studied. It was initially shown that  $\alpha\text{-lipoic}$  acid was converted to dihydrolipoic acid by normal human keratinocytes (NHK) and murine skin. Next, it was demonstrated that .alpha.—lipoic acid led to a dose-dependent protection against the decrease in lipid-soluble antioxidants (ubiquinol/ubiquinone and tocopherol) in NHKs treated with UVA light. Finally, it was shown that  $\alpha\text{-lipoic}$  acid inhibits the activation of the redox-sensitive transcription factor NF- $\kappa$ B. In conclusion, it is suggested that  $\alpha\text{-lipoic}$  acid could be a good candidate antioxidant for the protection of skin against oxidative damage.

IT Ubiquinones

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)

(reduced;  $\alpha$  -lipoic acid causes

dose-dependent protection against decrease in lipid-soluble antioxidants (ubiquinol/ubiquinone and tocopherol) in normal human

keratinocytes treated with UVA light)

IT Antioxidants

( $\alpha$  -lipoic acid as;  $\alpha$ 

-lipoic acid causes dose-dependent protection

against decrease in lipid-soluble antioxidants (ubiquinol/ubiquinone and tocopherol) in normal human keratinocytes

treated with UVA light)

IT Oxidative stress, biological

UV A radiation

 $(\alpha - lipoic acid causes$ 

dose-dependent protection against decrease in lipid-soluble antioxidants (ubiquinol/ubiquinone and tocopherol) in normal human

keratinocytes treated with UVA light)

IT Tocopherols

Ubiquinones

RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)

 $(\alpha$  -lipoic acid causes

dose-dependent protection against decrease in lipid-soluble antioxidants (ubiquinol/ubiquinone and tocopherol) in normal human keratinocytes treated with UVA light)

L4 ANSWER 28 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:293921 CAPLUS

DOCUMENT NUMBER: 128:305368

ORIGINAL REFERENCE NO.: 128:60437a,60440a

TITLE: Evaluation of the antioxidant capacity of ubiquinol

and dihydrolipoic acid

AUTHOR(S): Nohl, Hans; Gille, L.

CORPORATE SOURCE: Institute Pharmacology Toxicology, Veterinary University Vienna, Vienna, A-1210, Austria

SOURCE: Zeitschrift fuer Naturforschung, C: Biosciences

(1998), 53(3/4), 250-253

CODEN: ZNCBDA; ISSN: 0341-0382

PUBLISHER: Verlag der Zeitschrift fuer Naturforschung

DOCUMENT TYPE: Journal LANGUAGE: English

AB Ubiquinone and .alpha.-lipoic acid

are natural constituents which are involved in mitochondrial energy metabolism Their bioenergetic activities require redox-cycling. In the case of . alpha.-lipoic acid redox-cycling leads to dihydrolipoic acid which occurs in multienzyme complexes involved in the citric acid cycle while UQ recycles through semi- and divalently reduced ubiquinones in the respiratory chain. The validity was proved of the concept about the antioxidant function of these natural compds. in their reduced form. Ubiquinol interfered with lipid peroxidn. of liposomal membranes being itself degradated by 2 consecutive oxidation steps.

Dihydrolipoic acid was found to totally recycle ubiquinone to the antioxidant active divalently reduced form. In contrast to the antioxidative derived reaction products of ubiquinols which in turn promoted lipid peroxidn., the antioxidant derived reaction product of dihydrolipoic acid was the unreactive two electron oxidation product  $\alpha\text{-lipoic}$  acid. Thus, the existence of an dihydrolipoic acid driven recycling of UQ to the antioxidative-active UQH2 was demonstrated. The efficiency of the antioxidative capacity of the latter was found to be diminished through prooxidant activities of the antioxidant-derived metabolites.

L4 ANSWER 29 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1998:58161 CAPLUS

DOCUMENT NUMBER: 128:202183

ORIGINAL REFERENCE NO.: 128:39911a,39914a

TITLE: Cofactor biosynthesis: a mechanistic perspective

Begley, Tadhg P.; Kinsland, Cynthia; Taylor, Sean; AUTHOR(S):

Tandon, Manish; Nicewonger, Robb; Wu, Min; Chiu, Hsiu-Ju; Kelleher, Neil; Campobasso, Nino; Zhang, Yi

Department of Chemistry, Cornell University, Ithaca, CORPORATE SOURCE:

NY, 14853, USA

Topics in Current Chemistry (1998), 195 (Biosynthesis: SOURCE:

> Polyketides and Vitamins), 93-142 CODEN: TPCCAQ; ISSN: 0340-1022

PUBLISHER: Springer-Verlag

DOCUMENT TYPE: Journal; General Review

English LANGUAGE:

REFERENCE COUNT: 224 THERE ARE 224 CITED REFERENCES AVAILABLE FOR

THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE

FORMAT

AΒ A review, with 217 refs. The chemical of the cofactors has provided a fertile area of overlap between organic chemical and biochem., and the organic chemical of the cofactors is now a thoroughly studied area. In contrast, the chemical of cofactor biosynthesis is still relatively underdeveloped. In this review the biosynthesis of NAD, riboflavin, folate, molybdopterin, thiamin, biotin, lipoic acid, pantothenic acid, CoA, S-adenosylmethionine, pyridoxal phosphate, ubiquinone and menaquinone in E. coli will be described with a focus on unsolved

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ACCESSION NUMBER: 1997:404628 CAPLUS

DOCUMENT NUMBER: 127:65000

mechanistic problems.

ORIGINAL REFERENCE NO.: 127:12425a,12428a TITLE: Antioxidants and AIDS

AUTHOR(S): Zhang, Zhen; Inserra, Paula F.; Watson, Ronald Ross CORPORATE SOURCE: Arizona Prevention Center, University of Arizona,

Tucson, AZ, USA

Antioxidants and Disease Prevention (1997), 31-43. SOURCE:

Editor(s): Garewal, Harinder S. CRC: Boca Raton, Fla.

CODEN: 640SAO

DOCUMENT TYPE: Conference; General Review

LANGUAGE: English

A review and discussion with 87 refs. on oxidative stress and HIV infection, antioxidants and AIDs, glutathione, N-acetylcysteine, vitamin E (tocopherol). .alpha.-lipoic acid, vitamin C (ascorbic acid), carotenoids, other vitamins, zinc, selenium, copper, antioxidant enzymes, diethylthiocarbamate, desferrioxamine, plant-derived metabolites with synergistic antioxidant activity, phenolic compds., ubiquinones, flavonoids, coumarins, Nitrogen-containing compds., polyamines, enzyme systems, polypeptides, and vitamins.

ANSWER 31 OF 31 CAPLUS COPYRIGHT 2008 ACS on STN

1994:208505 CAPLUS ACCESSION NUMBER:

DOCUMENT NUMBER: 120:208505

ORIGINAL REFERENCE NO.: 120:36677a,36680a

TITLE: Effect of lipoic acid on redox state of coenzyme Q in

> mice treated with 1-methyl-4-phenyl-1, 2, 3, 6tetrahydropyridine and diethyldithiocarbamate

Goetz, Mario E.; Dirr, Albrecht; Burger, Rainer; AUTHOR(S):

Janetzky, Bernd; Weinmueller, Markus; Chan, Wing W.; Chen, Shih C.; Reichmann, Heinz; Rausch, Wold Dieter;

Riederer, Peter

Dep. Psychiatry, Univ. Wuerzburg, Wuerzburg, Germany CORPORATE SOURCE:

SOURCE: European Journal of Pharmacology, Molecular Pharmacology Section (1994), 266(3), 291-300

CODEN: EJPPET; ISSN: 0922-4106

DOCUMENT TYPE: Journal LANGUAGE: English

IT Ubiquinones

RL: BIOL (Biological study)

(in brain redox state induced by MPTP and diethyldithiocarbamate,

lipoic acid effect on)